

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A method for purifying an electronic item material,
which comprises:

dissolving an electronic item material or its intermediate product in an organic solvent
and

~~having the solution contacted~~

contacting the solution with activated clay at a temperature of 65°C to 200°C.

Claim 2 (Previously Presented): The method according to Claim 1, wherein the
solution is contacted with activated clay at a temperature of 80°C to 130°C.

Claim 3 (Previously Presented): The method according to Claim 1, wherein the
electronic item material is an electrophotographic photoconductor.

Claim 4 (Previously Presented): The method according to Claim 2, wherein the
electronic item material is an electrophotographic photoconductor.

Claim 5 (Withdrawn): The method according to Claim 1, wherein the electronic item
material is an organic electroluminescent device.

Claim 6 (Withdrawn): The method according to Claim 2, wherein the electronic item
material is an organic electroluminescent device.

Claim 7 (Previously Presented): The method according to Claim 1, wherein the electronic item material is a charge-transporting material.

Claim 8 (Previously Presented): The method according to Claim 2, wherein the electronic item material is a charge-transporting material.

Claim 9 (Withdrawn): An electronic item material or its intermediate product purified by a purification method which comprises dissolving an electronic item material or its intermediate product in an organic solvent and having the solution contacted with activated clay at a temperature of 65°C to 200°C.

Claim 10 (Withdrawn): An electronic item material or its intermediate product purified by a purification method which comprises dissolving an electronic item material or its intermediate product in an organic solvent and having the solution contacted with activated clay at a temperature of 80°C to 130°C.

11 (New): A method for producing a charge-transporting material comprising:
dissolving a charge transporting material or its intermediate product in an organic solvent and
contacting the solution with activated clay at a temperature ranging from 65°C to 200°C.

12 (New): The method of Claim 11, wherein the solution is contacted with activated clay at a temperature ranging from 80°C to 130°C.

13 (New): The method of Claim 11, wherein said charge-transporting material is an arylamine derivative.

14 (New): The method of Claim 11, wherein said charge-transporting material is a benzidine derivative.

15 (New): The method of Claim 11, wherein said charge-transporting material is a hydrozone derivative.

16 (New): The method of Claim 11, wherein said charge-transporting material is a stilbene derivative.

17 (New): The method of Claim 11, wherein the solvent is an aliphatic hydrocarbon.

18 (New): The method of Claim 11, wherein the solvent is an aromatic hydrocarbon.

19 (New): The method of Claim 11, wherein the solvent is at least one member selected from the group consisting of toluene, o-xylene, m-xylene, p-xylene, o-cymene, p-cymene, anisole, n-hexane, n-heptane, n-octane, n-decane, n-dodecane, 2,3-dimethylhexane, 2-methylheptane, 2-methylhexane, 3-methylhexane, ethylxylene, ethyltoluene, ethylanisole, and dimethylheptane.

20 (New): The method of Claim 11, wherein the activated clay is has a surface area of at least $150\text{m}^2/\text{g}$, an acidity of 10 to 30 m.e./100g, and contains 70-85% SiO_2 and 6-15% Al_2O_3 .

REMARKS

Claims 1-20 are pending. New Claims 11-20 find support in the original claims and in the specification as follows. Independent Claim 11 finds support in Claim 1 and in the specification at pages 4-8. The temperature ranges in Claims 11 and 12 find support in original Claims 1 and 2. Charge transporting materials, such as those in Claims 13-16, are described on page 4, line 20-page 5, line 14. The solvents in Claims 17-19 are described in the specification starting at page 7, line 21. The activated clay of Claim 20 is described on page 7, lines 4-8. Accordingly, the Applicants do not believe that any new matter has been added.

The Applicants thank Examiner Kopec for the courteous and helpful interview of September 2, 2003. The comparative experimental data in Tables 1-1 and 1-2 on pages 36 and 39 of the specification were discussed. To address the prior art rejection, the Applicants were encouraged to point out the superior properties of the materials produced by the claimed methods, such as improved sensitivity and reduced residual potential, as shown in these tables. The Applicants were also encouraged to provide copies of the documents cited in the specification on an information disclosure statement. This information disclosure statement was filed on November 4, 2003. As discussed, the Applicants discuss the superior results shown by the experimental data in Tables 1-1 and 1-2 below. Accordingly, favorable consideration and allowance of this application is respectfully requested.

INFORMATION DISCLOSURE STATEMENT

As requested, the Applicants have provided a listing of the references cited in the specification in the Information Disclosure Statement previously filed on November 4, 2003.

RESTRICTION/ELECTION

The Applicants hereby confirm their election with traverse of Group I, Claims 1-8. The Applicants also confirm their election of the photoconductor species. Claims 1 and 2 are generic. Claims 6 and 7 fall within elected Group I, but were withdrawn as being directed to nonelected species (electroluminescent devices). Upon an indication of allowability for the generic claim, it is the Applicants' understanding that examination will be extended to nonelected species.

REJECTION - 35 U.S.C. § 103

Claims 1-4 and 7-8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 11-76763, JP 11-84694 or JP 7-56365. The cited prior art does not render the claimed invention unpatentable, because it does not suggest selecting the treatment temperature range of 65°C to 200°C, nor suggest that selection of this temperature range would provide a product with superior properties, such as improved sensitivity and less residual potential.

Present independent Claims 1 and 11 require a treatment temperature ranging from 65°C to 200°C. JP 11-76763 and JP 11-84694 disclose methods involving a treatment temperature ranging from 20 to 60°C—see JP '763 paragraph [0008] and JP '694 paragraph [0009]. While these documents also indicate that treatment may be performed at a higher or lower temperature, there is no suggestion or reasonable expectation of success for obtaining an improved product by selecting a higher or lower temperature. JP 7-56365, paragraph [0005] describes a treatment temperature which is usually 20-200°C, but is preferably 20 to 60°C and Examples 1 and 2 of JP '365 disclose temperatures of 60°C and 25-30°C. Thus, none of the cited prior art suggests or provides a reasonable expectation of success for obtaining an improved product by selecting a temperature within the range 65°C to 200°C.

The Applicants' data in Tables 1-1 and 1-2 on pages 36 and 39 of the specification show the benefits of selecting a treatment temperature within the range 65°C to 200°C, e.g., that the photoconductors prepared with the charge-transporting material produced by the claimed method have improved sensitivity and less residual potential.

Table 1-1

Example and Comparative Example	V0 (-V)	Vr (-V)	E1/2 ($\mu\text{J}/\text{cm}^2$)
Example 1	701	3	0.34
Comparative Example 1	692	24	0.39
Example 2	651	1	0.29
Comparative Example 2	679	12	0.33
Example 3	609	0	0.21
Comparative Example 3	582	5	0.26
Example 4	650	3	0.29
Comparative Example 4	656	8	0.30
Example 5	638	1	0.26
Comparative Example 5	601	19	0.30
Example 6	595	0	0.19
Comparative Example 6	634	14	0.26
Example 7	790	19	0.40
Comparative Example 7	752	59	0.56
Example 8	655	0	0.27
Comparative Example 8	612	3	0.28
Example 9	622	0	0.15
Comparative Example 9	514	32	0.21
Example 10	666	0	0.24
Comparative Example 10	631	28	0.38
Example 11	800	14	0.43
Comparative Example 11	771	63	0.60
Example 12	649	3	0.37
Comparative Example 12	678	39	0.58
Example 13	587	0	0.22
Comparative Example 13	580	3	0.24
Example 14	591	0	0.28
Comparative Example 14	603	3	0.29
Example 18	620	8	0.33
Comparative Example 18	584	11	0.35
Example 19	614	0	0.30
Comparative Example 19	610	9	0.32
Example 20	592	0	0.28
Comparative Example 20	593	4	0.28
Example 21	542	1	0.22
Comparative Example 21	548	8	0.23
Example 22	561	0	0.21
Comparative Example 22	570	33	0.40
Example 23	504	0	0.29
Comparative Example 23	490	3	0.29
Comparative Example 24	693	21	0.38

For example, compare the substantially lower residual potential (V_r) and lower $E_{1/2}$ (higher sensitivity) of Example 1 (treatment temperature 100°C) and Comparative Example 1 (treatment temperature 50°C). Compare also, Examples 2-7, etc. with Comparative Examples 2-7. The significance of the (V_r) and ($E_{1/2}$) values are explained in the next paragraph.

The practical significance of “lower residual potential (V_r)” and “improved sensitivity ($E_{1/2}$)” is as follows. (1) Lower residual potential (V_r). When it is necessary to remove a charge on a phosphor, it is expressed by “residual potential (V_r)” as to whether the charge is sufficiently removed or not. The smaller the residual potential (V_r) is, the more sufficiently the charge is removed. When the charge is sufficiently removed, the printed image becomes clear as a result.

(2) Improved sensitivity ($E_{1/2}$). When light is applied to a phosphor, a charge is flown and neutralized, and the potential on the part where the light is applied is lower. At that time, the light exposure amount necessary for lowering the initial potential to half is defined as “half the decay exposure amount ($E_{1/2}$)”. The smaller the half exposure amount ($E_{1/2}$) is, the smaller the light exposure amount necessary for lowering the surface potential is. As a result, the sensitivity is improved, and printing can be carried out with a smaller energy consumption amount. As shown in Tables 1-1 and 1-2, the superior values obtained by the present invention for (V_r) and ($E_{1/2}$) are exemplified.

In view of the above remarks, the Applicants respectfully request that this rejection be withdrawn because the prior art does not suggest selecting the treatment temperature range of the invention, nor disclose or suggest the improved properties of the products produced by the claimed method by selecting this treatment temperature range.